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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/271,617	03/17/1999	ADAM J. CHEYER	SRI1P021	4388

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EXAMINER

BULLOCK JR, LEWIS ALEXANDER

ART UNIT	PAPER NUMBER
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2126

DATE MAILED: 09/03/2003

19

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/271,617

Applicant(s)

CHEYER ET AL.

Examiner

Lewis A. Bullock, Jr.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 June 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3,5-10,14-21,25-28 and 39-41 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3,5-10,14-21,25-28 and 39-41 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 June 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. New corrected drawings are required in this application because of Draftperson's Review. Applicant is advised to employ the services of a competent patent draftsman outside the Office, as the U.S. Patent and Trademark Office no longer prepares new drawings. The corrected drawings are required in reply to the Office action to avoid abandonment of the application. The requirement for corrected drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 3, 5, 6, 15-17, 39, and 40 are rejected under 35 U.S.C. 102(b) as being anticipated by "InfoSleuth: Agent-Based Semantic Integration of Information in Open and Dynamic Environments" by BAYARDO et al.

As to claim 1, BAYARDO teaches a computer-implemented method for communication and cooperative task completion between a community of distributed electronic agents communicating using a dynamically expandable interagent communication language, ICL, (KQML) (pg. 197, Agent Communication Language) and at least on other distributed component system (Resource Agent system), the other

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distributed component system communicating using a protocol incompatible with the ICL (pg. 199, Resource Agent, "The Resource Agent has to translate queries expressed in a common query language (such as KQML/ KIF) into a language understood by the underlying system."), the method comprising the acts of: receiving by a bridge agent (Resource Agent) a description of functional capabilities of components (information source) of the other distributed component system from a component registry (registered resources and their capabilities) of the other distributed component system (pg. 197, "Resource Agent:...It also advertises the resources capabilities."); translating the functional capabilities of components received from the protocol of the other distributed component system into the ICL (KQML), to create a translated description (pg. 197, Agent Interactions, "When a Resource Agent initializes, it sets up its connection to its resources and advertises the components of ontology (ies) that it understands to the Broker Agent."; pg. 199, Resource Agent, "The components of an example Resource Agent...The language processor translates a query expressed in terms of global ontology into a query expressed in terms of the Oracle database schema."); adding to a facilitator registry (registered agents and their capabilities) of the community of distributed agents the translated description (pg. 199, "As agents come online, they advertise their services to the broker via KQML...Minimally, an agent must advertise to the Broker its location, name, and the language it speak."; pg. 197, "When a Resource Agent initializes, it sets up its connection to its resource and advertises the components of ontology (ies) that it understands to the Broker Agent."), wherein the facilitator registry (registered agents and their capabilities with the Broker Agent) is

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distinct from the component registry (registered resources and their capabilities with the Resource Agent); responsive to a request (query) for service to the community of distributed agents delegating an ICL sub-goal request (decomposed query) to the bridge agent (Resource Agent) (pg. 197, "The Execution Agent takes the set of appropriate Resource Agents, decomposes the query, and routes it appropriately.") ; translating at the bridge agent (Resource Agent) the delegated ICL sub-goal request (decomposed query) into the incompatible protocol of the other distributed system to create a translated request (pg. 197, "Each Resource Agent translates the query from the query domain's global ontology into the resource-specific schema..."); and invoking one or more components of the other distributed component system using the translated request (pg. 197, "...fetches the results and returns them to the Execution Agent."; pg. 199, "The Resource Agent also needs to answer queries...the resource agent sends them to the information source for execution, and translates the answers back into the format understood by the requesting agent.").

As to claim 3, BAYARDO teaches the request for service is received from an agent capable of communicating in the ICL (KQML) (pg. 197, User Agent, "Currently, the agents query the task execution agents using KQML with SQL content.").

As to claim 5, BAYARDO teaches the acts of: receiving functional capabilities of a distributed electronic agent (resource agents); adding the functional capabilities to the facilitator registry (registered agents and their capabilities with the Broker Agent) (pg.

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197, "When a Resource Agent initializes, it sets up its connection to its resource and advertises the components of ontology (ies) that it understands to the Broker Agent."); determining a second ICL sub-goal (decomposed query) necessary to accomplish the request for service (query); selecting from the facilitator registry (registered agents and their capabilities with the Broker Agent) an agent capable of completing the second ICL sub-goal (via querying the Broker agent); and delegating the second ICL sub-goal (decomposed query) to the selected agent (Resource Agent) (pg. 197, Agent Interactions, "On receive a request... The Execution Agent reassembles the results and returns them to the User Agent, which then returns the results to the user's Viewer applet for display.").

As to claim 6, BAYARDO teaches the components are data objects and the agents are written in Java (pg. 199-200, Implementation, Resource Agent, Implementation). Therefore it is inherent that components are software-based objects.

As to claims 39, 15-17, reference is made to a computer readable medium that corresponds to the method of claims 1, 3, 5, and 6 and is therefore met by the rejection of claims 1, 3, 5 and 6 above.

As to claim 40, reference is made to a software computer architecture that corresponds to the method of claim 1 and is therefore met by the rejection of claim 1 above.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 2, 14, and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over "InfoSleuth: Agent-Based Semantic Integration of Information in Open and Dynamic Environments" by BAYARDO et al. in view of "Information Brokering in an Agent Architecture" by MARTIN et al.

As to claim 2, BAYARDO substantially discloses the invention above. However, BAYARDO does not teach the request for service is generated by one of the components.

MARTIN teaches the request for service is generated by one of the components of the other distributed component system (information source), and comprising the acts of: transmitting the request for service to the bridge agent (Broker); and translating the request for service into the ICL (broker schema) (pg. 12, "The Broker also provides the capability of answering queries that are expressed in the schema of the information source, rather than the broker schema."; pg. 13, "But in addition, this legacy source may also act as an information requestor, submitting queries that are formulated in terms of its source schema. (A syntactic translation may be needed to place the query in ICL syntax, but in most cases, this is relatively straightforward to implement.>"). Therefore, it

would be obvious to combine the teachings of BAYARDO with the teachings of MARTIN in order to facilitate transparent access in either a source or broker schema to a variety of information sources (abstract).

As to claim 14, reference is made to a computer readable medium that corresponds to the method of claim 2 and is therefore met by the rejection of claim 2 above.

As to claim 41, BAYARDO substantially discloses the invention above. However, BAYARDO does not teach the bridge agent is integral with the facilitator.

MARTIN teaches the bridge agent is integral with the facilitator (pg. 7, figure 1). Therefore, it would be obvious to combine the teachings of BAYARDO with the teachings of MARTIN in order to work in close cooperation with another agent in an agent architecture (pg. 6-7).

6. Claims 7-10, 18-21, and 25-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over "InfoSleuth: Agent-Based Semantic Integration of Information in Open and Dynamic Environments" by BAYARDO et al.

As to claims 7-10, BAYARDO teaches the agents are objects and a user agent communicates with data objects through a resource agent. However, BAYARDO does not teach that the other distributed component system utilizes a distributed object service or that service is Jini, Corba, or Java service. "Official Notice" is taken that JINI,

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CORBA, and Java are well-known object oriented software services for communication between objects. Therefore, it would be obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of BAYARDO with the well known distributed object services in order to communicate with between a variety of objects that implement different object services.

As to claims 18-21, reference is made to a computer readable medium that corresponds to the method of claims 7-10 and is therefore met by the rejection of claims 7-10 above.

As to claims 25-28, reference is made to a software computer architecture that corresponds to the method of claims 7-10 and is therefore met by the rejection of claims 7-10 above.

Response to Arguments

7. Applicant's arguments with respect to claims 1-3, 5-10, 14-21, 25-28, and 39-41 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

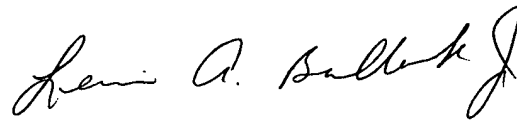
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lewis A. Bullock, Jr. whose telephone number is (703)

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305-0439. The examiner can normally be reached on Monday-Friday, 8:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John A Follansbee can be reached on (703) 305-8498. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-0286.

A handwritten signature in cursive script, reading "Henry A. Bullock". The signature is written in black ink and is positioned in the center of the page.

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